

REMARKS

The Official Action of 24 March 2006 has been carefully considered and reconsideration of the application as amended is respectfully requested.

Claim 2 has been amended to remove the basis for the objection appearing at paragraph 1 of the Official Action. Claims 3, 15 and 17 have been amended to remove the bases for the rejections under 35 USC 112, second paragraph appearing at paragraph 3 of the Official Action. All claims as amended are respectfully believed to be sufficiently definite to satisfy the dictates of 35 USC 112, second paragraph.

Claims 1-10, 12-13 and 18-19 stand rejected under 35 USC 102(e) as allegedly being anticipated by Kataoka et al '210 or Kataoka et al '626. Claim 11 stands rejected as allegedly being unpatentable over either of these references in view of EP 1210689.

Applicants respectfully traverse these rejections on the basis of the earlier filing date of their priority application, Japanese Patent Application No. 2002-345831, filed November 28, 2002. In contrast, the earliest effective date of each of the Kataoka et al references is on or after March 12, 2003. Applicants submit herewith a certified English translation of this Japanese priority application to show that the Applicants are entitled to the date of the priority application for the subject claims (see MPEP 201.15).

Certain claims have been rejected under 35 USC 102(b) as allegedly being anticipated by Nakamura et al or under 35 USC 103(a) as allegedly being unpatentable over Nakamura et al in view of EP 1219689. Certain claims have been rejected under 35 USC 103(a) as allegedly being unpatentable over Yatake or over Yatake in view of EP1219689 or GB 2370580. Applicants respectfully traverse these rejections.

The claimed invention is based at least in part upon Applicants' discovery that, to solve the problem of golden gloss that occurs when a monochromatic image is recorded with two or more black inks, including a black ink of relatively low concentration comprising carbon black in an amount of less than 0.4wt% (see specification at page 12, last paragraph to page 14, first paragraph for a description of the golden gloss problem), it is critical to include in the black ink a fine particle emulsion having a solid content of 20 times or more of the carbon black. This is discussed in the specification at, for example, the first full paragraph on page 17 and is shown by Examples 1-4 and Comparative Examples 1 and 2, as discussed next.

As discussed in the specification at pages 76-77, the eight (8) ink compositions described on pages 73-74 and Table 1 on page 75 were prepared and used to record an image on a recording medium. As can be seen from Table 1, each of the ink compositions of the Examples contain carbon black within the claimed amounts and a fine particle emulsion having a solid content in an amount of 20 times or more of the content of the carbon black. In contrast, Comparative Example 1 has a carbon black content within the claimed amount, but the solid content of the fine particle emulsion is present in an amount of less than 20 times the content of

the carbon black. When observers observed the recorded images of the respective Examples and Comparative Examples for the presence of golden gloss in accordance with the evaluation describe on pages 77-78, golden gloss was observed in the recorded images of the Comparative Examples but not in the recorded images of the Examples (see Table 3 on page 79). These results show not only the importance of the fine particle emulsion in the claimed ink composition, but also show that **the ratio** of the solid content of the fine particle emulsion to the content of the carbon black is a **result effective variable**. In contrast, the references cited in the rejections do not show or suggest the claim limitation that the solid content of the fine particle emulsion is 20 times or more the content of the carbon black, and do not show or suggest the result effective nature of this variable.

Novelty

The Nakamura et al reference discloses the content of pigment (0.1 to 10% by weight) in column 3, lines 66-67, and the content of the thermoplastic resin component (0.2 to 20% by weight) in column 7, lines 7-8, but does not disclose **any** ratio of these two amounts. The reference *a fortiori* does not show or suggest the claimed feature, namely that the solid content of the fine particle is 20 times or more the content of the carbon black.

The only weight ratio explicitly disclosed in Nakamura et al is the weight ratio of the pigment to a resin dispersant (**not** the thermoplastic resin) in, for example, claim 1, but the reference does not mention any weight ratio of the pigment to the thermoplastic resin

component. Accordingly, it may be assumed that the reference attaches no importance to the latter ratio. In contrast, the Examiner has fashioned a ratio from what is respectfully considered to be hindsight reasoning based on the present specification. Applicants respectfully submit that, using this reasoning, any ratio of resin to carbon black from 200:1 ($20 \div 0.1$) to 0.02: 1 ($0.2 \div 10$) could be fashioned from the reference disclosure, but this would be reading into the reference disclosure a teaching that is not there. Moreover, the ratios so fashioned would read both on the claimed ratio and ratios that fall outside of the claims and that do not have the advantageous effects of the claimed composition. (So, for example, the ratio would read on Comparative Example 1 discussed above.)

In the absence of a teaching in the reference of any weight ratio of carbon black to resin, the reference cannot be considered to show the claim limitation that requires that the solid content of the fine particle is 20 times or more the content of the carbon black. The reference cannot be considered to anticipate the claims for at least this reason. See MPEP 2131 (“To anticipate a claim, the reference must teach every element of the claim”). Moreover, even assuming for the sake of argument that the reference could be construed to teach a weight ratio that includes the claimed weight ratio, such teaching could not be considered to be of the specificity required for an anticipation. See MPEP 2121.02 and 2131.03.

Nonobviousness

The cited references also cannot be considered to render obvious the claimed invention,

at least because none of the references shows or suggests the claimed ratio of carbon black to solid content of the resin emulsion or the result effective nature of this variable. See MPEP 2144.05 (“A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation.”). In this connection, the deficiencies of Nakamura et al are discussed above. The deficiencies of Yatake are discussed next.

The Examiner states that Yatake discloses a light black ink comprising 0.01-10% carbon black and 0.5-10% pH-adjusted fine polymer particle emulsion, and contends that this describes a range of weight ratios. Applicants respectfully disagree for the reasons discussed above with respect to Nakamura et al. Moreover, Applicants respectfully note that the Examples of Yatake do not show any light black ink containing fine polymer particle emulsion in an amount 20 times larger or more than that of carbon black. Accordingly, Applicants respectfully submit that Yatake actually teaches away from the claimed invention. In any event, Yatake does not teach or suggest that the content ratio as presently claimed is result-effective or that the claimed ratio can solve the problem of golden gloss.

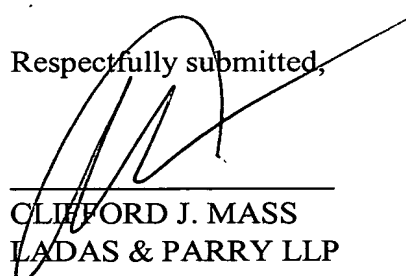
In the absence of any teaching or suggestion in the cited references to show the claimed content ratio or the result effective nature thereof, Applicants respectfully submit that the references are incompetent to set forth even a *prima facie* case of obviousness for the invention as defined in all of the claims. With specific respect to claims 14-17 which have been rejected

on Yatake in view of GB 2370580 (see paragraph 13 of Official Action), Applicants respectfully note that Yatake does not show or suggest the claimed specific three (3) black inks, as acknowledged by the Examiner.

On the other hand, GB 2370580 does not disclose a black ink containing a fine particle emulsion or, *a fortiori*, the specific content ratio of carbon black and fine particle emulsion as presently claimed. GB 2370580 does not teach or suggest designing an ink set comprising plural black inks as claimed in claims 14-17 or the effects of solving both problems of golden gloss and phase shift (see paragraph bridging pages 15-16 of the specification. Accordingly, even assuming for the sake of argument that the references could be properly combined, the combination would not arrive at the invention defined by claims 14-17.

In view of the above, Applicants respectfully submit that the prior art and all other rejections and objections of record have been overcome and that the application is now in allowable form. An early notice of allowance is earnestly solicited and is believed to be fully warranted.

Respectfully submitted,



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